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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,157	12/23/2005	Eiju Suzuki	Q92027	6585
23373 7590 08/05/2009 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER				
TESKIN, FRED M				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
08/05/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/562,157

**Applicant(s)**

SUZUKI ET AL.

**Examiner**

Fred M. Teskin

**Art Unit**

1796

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 13-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7 and 13-16 is/are allowed.
- 6) ☒ Claim(s) 8 and 17 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S5108)
- Paper No(s)/Mail Date 20090128
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**Detailed Action**

This Office action is responsive to the reply filed on April 1, 2009. Per the reply, the specification has been amended so as to obviate the informalities noted in the prior action. Claims 1-8 and 13-18 remain pending and under examination herein.

The declaration under 37 CFR 1.132 filed 04/01/09 is sufficient to overcome the rejection of claims 1-7 and 13-16 based upon Pedretti *et al*, alone or in view of Sandstrom *et al*.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 8 and 17 stand rejected under 35 U.S.C. 102(b) as being anticipated by US 4429089 (hereinafter 'Pedretti').

Pedretti has disclosed the polymerization of 1,3-butadiene at a temperature lower than 25°C (*viz.*, 20°C), in the presence of a catalyst system prepared by described procedure A, see Examples 18, 19, and 23. Per procedure A, the catalyst system was prepared by adding solvent, a component (A) (organic metallic compound of aluminum), diolefine, lanthanide complex (C) and Lewis acid (B) to a bottle, which was then placed to carry out polymerization in a rotary bath (col. 5, line 45 to col. 6, line 5). This procedure illustrates preparation of the catalyst system in the presence of the monomer to be polymerized as discussed at column 4, lines 27-30 of Pedretti. As butadiene

polymerization was conducted subsequent to this preparation procedure, the catalyst system used in said examples is considered to meet the "previously prepared" limitation of claim 8. Further, the components A, C and B in said examples correspond to applicants' components (B), (A) and (C) as defined in claim 8, which is readable on a method wherein the 1,3-butadiene being polymerized originates from the conjugated diene monomer present in the previously prepared catalyst system. As to claim 17, the specific lanthanide complex used as component C in the cited examples  $[\text{Nd}(\text{O}-\text{n-C}_{10}\text{H}_{21})_3]$  is an alkoxide of neodymium, and as such, qualifies as "a salt of neodymium soluble in a hydrocarbon solvent" as claimed. As such, reference to Pedretti is deemed fully responsive to the limitations of claims 8 and 17.

Applicants' arguments filed 04/01/09 with respect to Pedretti have been fully considered but are not persuasive of error in the repeated rejection.

Applicants traverse the rejection, arguing that Pedretti (1) does not teach, in the examples at low polymerization temperature such as 20°C that the catalyst system is previously prepared in the presence of a neodymium compound, aluminum alkyl compound, source of halogen and small portion of conjugated diene monomer as required by the present claims and (2) does not teach that it is especially advantageous to "pre-form" the polymerization catalyst prior to contacting the catalyst with major portion of the conjugated diene monomer.

As to point (1), it is noted that the rejected claims do not recite or otherwise include any positive limitation on amount of either the conjugated diene monomer

present in the catalyst system or the 1,3-butadiene being polymerized. Claim 8 in particular merely requires a catalyst system consisting of the defined components [(A), (B) and/or (D) and (C)] and a conjugated diene monomer, and that the catalyst system be previously prepared in the presence of component (A), component (B) and/or component (D), component (C) and the conjugated diene monomer. The catalyst system used in at least Examples 18, 19 and 23 of Pedretti is considered to meet the "previously prepared" limitation for the reasons discussed in the above rejection, the components A, C and B therein correspond to applicants' components (B), (A) and (C) as claimed, and component (D) is a non-essential (i.e., optional) element of the rejected claims. Furthermore, claims 8/17 do not preclude polymerizing 1,3-butadiene monomer originating from the conjugated diene monomer present in the previously prepared catalyst system. Applicants' argument, therefore, is not commensurate in scope with the rejected claims.

As to point (2), it is not necessary to the anticipation rejection that Pedretti recognize any advantage deriving from a pre-formed catalyst since the reference presents examples describing a polymerization procedure utilizing a previously prepared catalyst system, upon which the rejected claims read. Evidence of purported unexpected results, even if present herein, is not relevant to an anticipation rejection. Moreover, applicants have pointed to no record evidence demonstrating the criticality of such "catalyst pre-formation" to obtainment of highly pure microstructure, and examiner has independently found none. Argument of counsel cannot take the place of evidence in the record, *In re Pearson*, 181 USPQ 641, 646 (CCPA 1974).

Claims 1-7 and 13-16 are allowable over the prior art of record.

Claim 18 stands objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claim. Use of the particular rare earth element containing compound recited in this claim in a method of producing a butadiene-based polymer according to claim 17 is not disclosed nor adequately suggested in the available prior art.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner F. M. Teskin whose telephone number is

(571) 272-1116. The examiner can normally be reached on Monday through Thursday from 7:00 AM - 4:30 PM, and can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The appropriate fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Fred M Teskin/  
Primary Examiner, Art Unit 1796

FMTeskin/08-03-09